

BEFORE THE

**Federal Communications Commission**

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WASHINGTON, D. C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of

Rulemaking to Amend Part 1 and )  
 Part 21 of the Commission's Rules )  
 to Redesignate the 27.5-29.5 GHz )  
 Frequency Band and to Establish )  
 Rules and Policies for Local )  
 Multipoint Distribution Service )

CC Docket No. 92-297

To: The Commission

**COMMENTS OF GHZ EQUIPMENT COMPANY**

GHZ Equipment Company ("GEC") hereby submits its comments in response to the Notice of Proposed Rulemaking in the captioned proceeding, released January 8, 1993. GEC urges the Commission to adopt the proposed rules, but with certain crucial modifications.

GEC is engaged in the design, development and manufacture of microwave equipment for use in the 28 GHz and other Extremely High Frequency regions of the spectrum. GEC will provide equipment for a range of services in the 28 GHz spectrum including video distribution, two-way data, telephony and video telephone applications in analog and digital modes. GEC's technical efforts are being coordinated by David Sarnoff Research Center, Inc. of Princeton, New Jersey. GEC's comments with respect to technical matters derive from numerous consultations with Sarnoff scientists working on the projects noted above. Based upon its knowledge of the conceptual and mechanical foundations of varied 28 GHz applications, GEC offers the following recommendations.

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cant's utilization plan precisely what specific frequency stability characteristics the applicant will utilize.


Interference between adjacent service areas should not be a problem given the strong signal capture effect which either FM or digital signals exhibit. A 20 dB differential in signal levels will be sufficient to eliminate harmful levels of electrical interference to adjacent service areas. Thus, adjacent area interference control should be based upon a 20 dB desired-undesired signal ratio. This margin should be achievable consistently as long as licensees ensure that their customers' receive antennas are directionalized and properly adjusted.

Finally, because 28 GHz systems will be built at different rates from one service area to another, licensees should be required to demonstrate a minimum of 20 dB desired-undesired signal ratio to theoretical receive sites in adjacent area systems prior to construction of any cell with five miles of the borders of such service areas. This requirement will ensure that no prohibitive interference is caused to operational adjacent area systems.

## **II. Technical Ramifications of the Iridium Project**

At Footnote 2 of the NPRM, the Commission makes reference to the "Iridium Project" of Motorola Satellite Communications, Inc., which proposes to utilize a portion of the 28 GHz spectrum to support a low earth orbit mobile satellite service. The potential for interference between Motorola's planned up-link use of this spectrum, limited to the 29.1 - 29.2 GHz band, and the terrestrial use contemplated under the proposed LMDS rules. With respect to primary transmitter propagation paths, direct path interference to LMDS users between the satellite and transmitter will be non-existent. The system's great-

est power will originate at the highest practical altitude in the area observation point. In order to maximize the effective radiation ~~the power will be radiated in the upper half of the isotropic~~



Trading Area format proposed in the NPRM. In any number of major metropolitan areas -- San Francisco and Los Angeles, to mention only two -- the BTA envelopes an enormous population, larger even than the Consolidated Metropolitan Statistical Areas in which those markets are located. For example, the Los Angeles BTA encompasses approximately 14.8 million people and extends all the way to the Arizona border. Under the proposed 90 percent coverage requirement, the Los Angeles licensee would have to be capable of serving a population of 13.3 million within three years. To require that a single licensee serve such a populous area within such a brief frame of time may be fundamentally impractical.

In more sparsely populated regions of the country, such as the west and northwest where one BTA can cover many thousands of square miles, the practical limitations of the LMDS cellular configuration are even more obvious. For example, the Billings, Montana and Reno, Nevada BTAs each cover in excess of 100,000 square miles. Nor are the major concentrations of people necessarily within the primary metropolitan area. In the case of Billings, for instance, the population of the entire county is less than 25 percent of the overall population of the BTA.

In short, under a BTA format and depending upon the service area, either (1) a licensee simply may not be able to underwrite the cost of building out 90 percent of the BTA and thus expose itself to loss of its license, or (2) if the 90 percent construction requirement is relaxed, substantial sectors of the BTA may go unserved.

Thus, in the event that the Commission were to adopt the BTA approach, GEC recommends two refinements to the rule as proposed. First, the requirement that 90 percent of the BTA be serviceable

within three years should be relaxed. We believe a much more realistic schedule would be 25 percent coverage within three years and 50 percent coverage within five years. Second, given the expansiveness of many BTAs, the Commission should provide that regions unserved by an LMDS operator after five years be opened for additional applications.

Although the BTA concept could be workable if modified in these ways, the preferable course in GEC's view is to model LMDS service areas roughly on the approach utilized in the cellular service. However, in order to eliminate the complexity of licensee-defined service areas, we recommend that service areas be delimited in the familiar terms of MSAs, PMSAs and RSAs. This would satisfy the Commission's concern that all land area within the United States be encompassed. NPRM at ¶ 30. In virtually all cases, MSAs and PMSAs are more manageable from an operations vantage than are BTAs, and, at the same time, represent clusters of commercial activity denoted by BTAs.

#### **IV. Application Requirements**

In the NPRM the Commission proposes a "letter perfect" standard for acceptance of LMDS applications, or, alternatively, the "post-card" method akin to the approach now utilized in IVDS application processing. GEC urges the Commission to adopt the "letter perfect" standard. This would eliminate the considerable administrative burden existing under current Part 21 rules where only substantial compliance is required for acceptability. On this score, the FCC's experience with the "letter perfect" approach in, for example, the FM radio service, has confirmed its virtue for processing purposes. By contrast, GEC believes that the "post-card" format has the poten-

tial for significant abuse by application mills, given the FCC's concomitant proposal to permit tentative selectees up to thirty days to submit a complete proposal once their applications are selected for processing.

In this connection, the one-calendar-day filing opportunity proposed in the NPRM may or may not be appropriate depending upon the application requirements the Commission ultimately adopts. For example, if a thirty-day public notice were issued concerning the

conveying "reasonable assurance," as a practical matter, give the Commission little confidence that the subject funds are genuinely available. For this reason, it is not surprising that other services administered by the FCC have also abandoned the reasonable assurance concept in favor of the more reliable firm financial commitment requirement.

We note an error, however, in the phrasing of the proposed rule itself (Section 21. 1011). Subparagraph (c) of the rule states that applicants relying upon non-institutional funding must submit proof that the financing entity has not committed the funds in question to any other LMDS application. We presume the FCC intends this restriction to preclude an applicant's relying on the same committed funds for applications in more than one market. It is easily conceivable that one lender may be willing to make its funds available to whomever the tentative selectee is in a given market, meaning that commitment letters may issue to more than one application in a single market. Proposed Section 21.1011 should be corrected accordingly.

A similar clarification should be made to the phrasing of proposed Section 21.1010, governing interests in LMDS applications. Read literally, the rule would prohibit an entity from holding an interest in LMDS applications in *different* markets. We are aware of no public interest-related concern which the rule in that form might have been intended to address. Indeed, that rendering of the rule is directly at odds with the FCC's discussion at Paragraph 45 of the NPRM. Accordingly, the rule should be clarified to specify that one entity may not hold an interest in more than one applicant "in the same market."



## **VI. Cross-Ownership**

GEC opposes ownership by cable companies in LMDS licensees serving the same market. It is beyond cavil that a principal purpose for the Commission's creation of the LMDS service is to promote competition in the video entertainment marketplace. Although LMDS will have various applications, the principal use of the 28 GHz spectrum in the near term will be video distribution. For this reason, it would be unwise for the Commission to allow cable companies to have an interest in local LMDS facilities. The regulatory oversight required to prevent anti-competitive abuses would not be outweighed by the theoretical prospect that the cable company as an LMDS licensee might implement non-video entertainment, alternative technologies in a non-abusive way. Moreover, permitting cable ownership of LMDS facilities in the same market would be fundamentally at odds with Congress' objectives in the new Cable Act. Nevertheless, in the event the Commission were to permit cable companies to hold interests in LMDS licensees, the cross-ownership rule should be restricted to cases where the cable company is not the dominant deliverer of video programming in the market in question.

## **VII. Miscellaneous Recommendations**

License Terms. It is our view that the five year license term proposed in the NPRM is too short. Considering the significant capital investment which will be required to build and launch a new LMDS system, we are concerned that lenders will be reluctant to provide financing at adequate levels without an assurance that the initial license term is long enough to enable a new LMDS venture to become a going concern. A license term of ten years, identical to the term accorded other Part 21 licensees, would be more appropriate.

Auctions. Although the Commission has expressed interest in the prospect of obtaining auction authority to implement the LMDS service, we believe auctions would be a mistake. More than any technology to come along in years, LMDS holds the potential for varied and distinct applications which will be, in the end, a function principally of the ingenuity of LMDS licensees. The creative possibilities for uses of this technology are too important to deprive smaller LMDS aspirants the opportunity to bring good ideas to fruition merely because they lack the financial wherewithal to bid competitively for an LMDS license. Whatever other services may be well suited for the auction approach, LMDS is not one of them. We therefore recommend that auction authority not be sought in connection with this service.

#### VIII. Conclusion

GEC applauds the Commission's efforts to launch the LMDS industry expeditiously. We believe that LMDS holds tremendous promise for bringing rapidly evolving technology to consumers in very short order. Modified to incorporate the changes recommended herein, the new rules will facilitate the development of this industry and should be adopted quickly.

Respectfully submitted,

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